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The Vehicle Gap: Wealth Inequality and Road Injury Risk Characterization in Vietnam

Jeffrey KiHyun Park[1]

[1]University of California, Berkeley

Abstract

Road traffic injury (RTI) is a frequently overlooked issue in the literature of global health. This perspective examines the ways in which wealth inequality exacerbates RTI risk characterization in the specific model of Vietnam. The framework of the Equality-Sustainability Hypothesis, as suggested by Cushing et. al, is used, with a specific focus on three factors: political misrepresentation, discrepancy in consumption intensity, and lack of social cohesion. Policies regarding helmet coverage, healthcare infrastructure, road quality and social psychology are critically analyzed, with sources drawn primarily from epidemiological study designs. Such analyses provide the basis for various policy suggestions towards the end of the perspective that focus specifically on wealth inequality as the primary point of intervention. Overall, this perspective suggests that the Equality-Sustainability Hypothesis holds true in the example of RTIs in Vietnam, which is specifically referred to as a "Vehicle Gap", and that this hypothesis be made more comprehensive by liberalizing its definition of environment to also include man-made infrastructure.

INTRODUCTION

The global issue of road safety lies at the intersection of environmental health and political economy. By 2008, road traffic injury (RTI) was the third most prominent cause of death in males and ninth for females, claiming more lives than Human Immunodeficiency Virus and Tuberculosis[1]. The standard literature already establishes that increased RTI risk and prevalence[2] in the Global South are caused by unsustainable models of economic development and rapid motorization, which is further supported by the fact that developing countries in South East Asia and Africa have the highest prevalence of RTIs and RTIs per capita, respectively[3]. The relationship between international development and road safety is thus already extensively studied in the status quo, with evidence to support that developing countries carry higher RTI burdens.

On the contrary, the ways in which domestic inequities influence RTI risk are less examined in the standard literature. Cushing et al. provides a template for this analysis via the Equality-Sustainability Hypothesis, which states that inequality tends to degrade the environment and ultimately jeopardize the health of all citizens; the three ways by which this occurs is (1) *disproportionate political representation*, in which the poor disproportionately suffers from environmental risks due to displacement of pollution and lack of representation, (2) *differences in consumption intensity,* in which wealthy lifestyles and unequal purchasing capacity promote economic choices that are environmentally toxic, and (3) *the undoing of social cohesion in civil society,* in which erosion of trust for public institutions due to inequality subvert critical agendas for environmental protection[4]. It is important to note that this hypothesis states how inequality, as opposed to poverty, manifests deleterious effects on the environment, providing a rather Marxist framework on relative, not absolute, wealth. Ultimately, the Equality-Sustainability Hypothesis provides a possible

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Send correspondence to: INFO@GHJOURNAL.ORG

mechanism that this perspective will utilize in demonstrating how domestic inequality relates to risk characterization.

This perspective argues that the issue of road safety in Vietnam is caused and exacerbated by inequality. Part I will examine the mechanisms by which this relationship is established, specifically through addressing the three pillars of the Equality-Sustainability Hypothesis: political misrepresentation, discrepancy in purchasing power, and lack of social cohesion. Here, epidemiological research – mainly cohort and case-control studies – will be used for RTI risk characterization across different socioeconomic groups. Following this analysis, Part II of this perspective will suggest novel intervention methods and policies for improved road safety, with a specific focus on inequality.

Three levels of analysis explain this paper's specific focus on Vietnam. Firstly, data on road injuries are more accessible for Vietnam than for other countries, likely due to factors such as government transparency and infrastructure. Vietnam is officially ranked as Group II in the World Health Organization's (WHO) classification of availability of RTI data, while other developing countries in Asia and Africa are in Group III[5], meaning little to no availability of traffic data. Secondly, Vietnam addressed the issue of road safety since the late 1990s[6], so the effects of such policies have now manifested themselves. Other developing countries, on the contrary, only recently focused on road safety, making proper policy evaluations difficult. Lastly, inequality is a growing problem in Vietnam, as demonstrated by the rising Gini Coefficient[7], and therefore will allow for a critical analysis of the relationship between inequality and RTIs.

PART I: CONTEXT, ANALYSIS AND THESIS

Wealth inequality creates, exacerbates and fixes higher RTI risk for the lower socioeconomic class in Vietnam. For functional purposes, this perspective will consider both RTI prevalence and mortality as measures of RTI risk. The argument is organized thematically into three sections, as framed by the Equality-Sustainability Hypothesis: Section I analyzes economic inequality, examining how RTI risk is related to the purchasing power and affordability of services. Section II examines political inequality, to understand how misrepresentation and negligence by the government leads to the systematization of risk on the rural, poor demographic. Section III explains the lack of social cohesion, and specifically how social psychology and lack of public trust factor into the issue.

I. Economic Inequality: Affordability of Post-Trauma Care and Helmet Use

Traffic accidents are inherently an issue of inequality, given that the vast majority of RTI victims are poor, rural and less educated[8]. Part of this unequal risk distribution exists because the poor are unable to afford the necessary RTI services and protection, exemplifying the so-called absolute-income hypothesis, wherein the consequences of poverty are not rooted in relative inequality but poverty itself. Discrepancies in helmet use and post-trauma hospital care are two examples of how unaffordability manifests inequities in RTI risk.

a. Helmet Coverage

Discrepancy in helmet use due to inequality is a crucial upstream factor that influences disproportionate RTI risk in Vietnam. Helmets reduce the risk of RTIs by 69%[1], making them an important point of intervention; the Vietnamese Government mandated helmet use in 2007, which successfully increased helmet protection on road[6]. Nevertheless, a study by Hendrie et al. found that helmets cost the average low-wage Vietnam worker 17 hours of labor, and that most other safety supplies generally were also not financially affordable[9]. To support this claim, a more recent survey study observed that motorcycle helmet use was less prevalent in Ha Nam, a poorer district, than Nin Banh, a wealthier district[10]. Helmet use is thus correlated to issues in inequality and purchasing power, as the financial expense of helmets becomes an obstacle for the poor's access. Although helmet coverage is often considered a success story in Vietnam policy history, WHO Technical Officer Passmore further notes that "very limited information on impact of helmet law"[1] is available, suggesting, too, that one must question the credibility of evidence on this narrative. Ultimately, as successful as the helmet mandate policy may have been, Vietnam's state of wealth inequality offsets the effectiveness of helmet coverage and instills a sense of RTI risk to those who cannot afford such services. Wealth inequality with respect to helmet coverage provides further evidence of class-based inequities in RTI risks.

The quality of helmets also differs according to variations in price. Surely, the direct price-quality relationship is inherent in market mechanisms, but the problem is that helmet quality often reaches below

safety standards. Ngo et al. states that "80% of helmets on the market failed to meet the quality standards"[8], noting how the helmet market allows for low, unsafe quality helmets at correspondingly low prices. Given the aforementioned analysis on purchasing power and helmet prices, one can conclude that, even if helmets can be afforded, the poor are systemically offered lower quality, unsafe helmets by market forces. Since the market drives down prices to meet the poor's demand, there exists in Vietnam an economic landscape in which the poor are chronically at greater risk for RTIs.

b. Post-Trauma Hospital Care

Post-trauma hospital care is unaffordable for the poor in Vietnam, resulting in a lack of accessibility for necessary care and a higher RTI-related mortality. Nguyen et al. conducted a prospective cohort study with RTI admitted patients at Thai Binh General Hospital, and concluded that hospitalization due to "an RTI would cost approximately 6 months of salary" for the average Vietnamese citizen[11]. It is therefore unsurprising that for low-income Vietnamese from rural areas, 42.2% of RTI victims die on-site or without hospitalization, while another 29% of deaths occur at home[8]. The correlation of both findings propose the hypothetical framework that hospitalization is not only an inaccessible but also a financially demanding and avoided course of action, explaining the poor's high RTI mortality in Vietnam in relation to unaffordable post-trauma care costs. Consequently, such statistics support the hypothesis that those who lack the purchasing power to afford treatment are more likely to avoid hospitalization and not survive from a given accident.

The problem of frail post-trauma care is exacerbated by the lack and unequal distribution of hospitals. Rural district hospitals cannot provide sufficient post-RTI care and are also physically distanced from sites of trauma[8], hindering the provision of rapid access and treatment. Because of this discrepancy, the rural populaces, who are at greater risk for RTI, are unable to attain quality post-trauma care, providing another dimension of inequality based on wealth and geography. Ngo et al. observed through a sample study that only 4.3% of RTI victims in mountainous rural areas were able to reach central hospitals, and that a higher proportion of victims from this geography died en route to the hospital[8]. The unavailability of qualified hospital care in rural areas manifests greater RTI risk for poor, rural residents, ultimately providing another way in which inequality adds to the issue of road safety.

II. Political Inequality: Risk Creation by Misrepresentation and Bureaucracy

This section will examine the ways in which misrepresentative and negligent politics allow for class-based RTI risk inequities. Ultimately, the analysis will suggest that the state of traffic infrastructure and bureaucracy of traffic policymaking undermine the needs of the masses and of the poor, thereby affecting their risk characterization.

a. Unmet needs during Development and Motorization

Part of why the poor constitute the majority of RTI victims in Vietnam is that development of traffic infrastructure historically occurred without consideration of the needs of the impoverished. A prominent example is the lack of motorcycle infrastructure on public roads, which has placed a systemic RTI risk against the poor that rely predominantly on motorcycles. Motorcycles are incredibly popular modes of transportation for the poor in Vietnam due to its affordability[12], reflected by the fact that 94% of all vehicles in Vietnam are motorbikes[6]. Extending beyond Vietnam, even, Nishitateno et al. explains in his paper *The Motocycle Kuznets Curve* that this phenomenon is a global trend in developing countries, where motorcycle use increases during rapid economic development, followed by more frequency road injuries[12]. In the specific case of Vietnam, 95% of roads in Vietnam lack any kind of motorcycle infrastructure[1], meaning that the most roads are incompatible with and selective against the motorcycle-reliant poor. The problem this poses for risk characterization is that motorcycles carry higher risk for RTIs, given that they account for as much as 78% of all road injuries[8] in Vietnam. This high percentage may be due to the sheer number of motorcycles, but is also due to the lack of motorcycle infrastructure. Since the 1990s, the Vietnam government built traffic infrastructure without recognizing – intentionally or not –the prevalence of motorcycles within the urban and rural poor. Risks inherent in motorcycle use will be discussed in Part III, but the lack of infrastructure also worsens the effects of inequality by systematizing the risk for commuters of lower economic status.

b. Bureaucracy

The issue of traffic safety is distanced from the decision-making political core due to the sheer amount of bureaucracy surrounding traffic safety. Though not scientific, this analysis will contribute to policy recommendations in the second edition of the perspective. Since the poor are uniquely at risk for RTIs, this inhibitory bureaucracy means that the government is not able to prioritize the alleviation of risk

disproportionately placed on the poor. In Vietnam, the National Traffic Safety Committee (NTSC) is the primary body responsible for investigating and implementing traffic policy; however, according to a WHO report, the NTSC does not report to the Prime Minister or even a cabinet member, for that matter, but to the Vice Minister of Public Security[1]. There is consequently a clear distance between the political core and the agenda of traffic safety, defined by several layers of bureaucracy. This bureaucratization of crisis management leads to tangible effects that inhibit the advocacy power of the NTSC, especially from a financial perspective. Through a site analysis study, Mark King notes that "centralized control over road safety expenditure [disrupts] the funding of additional traffic enforcement activities by the NTSC"[13], highlighting the bureaucratic limitations on NTSC's road safety advocacy. This structural distance means that the political core misses the full scope of the issue at hand, and cannot address this inequity-based epidemic swiftly. Perhaps this bureaucracy may be needed for other purposes, but, all else being equal, it prohibits the engagement of government in an epidemiological crisis.

III. Social Inequality: Low Public Faith and Motorcycle Symbolism

Inequality may disrupt the social cohesion of civil society and pose new antagonisms between different classes. Cushing et al. develops this analysis by examining the ways in which citizens lose faith in public institutions and altruistic practices[4]. This section will develop Cushing et al.'s analysis by demonstrating how, from an epidemiological standpoint, inequality promotes lifestyles that increase risk of RTIs for certain demographics in Vietnam. Specifically, lack of public faith and the symbolism of the motorcycle will be examined.

a. Lack of Public Faith

Lack of faith in the government's ability to manage traffic safety has lead to a pro-cyclical trap of induced RTI risk: As citizens lose faith in traffic infrastructure, they are more likely to evade the law and engage in high RTI-risk behavior; this then increases the frequency of RTIs, which further lowers citizens' faith in public control of traffic safety, repeating the cycle. A survey study conducted in 2008 by Hung et al. found that 71% of people "see people breaking traffic rules without being punished", and that 85% believed "there is no orderly traffic flow in the city"; most concerning, however, was that 58% of people stated they would change lanes illegally to avoid congestion, and that 64% of people would speed drive for efficiency's sake[14]. Such statistics are worrying because the main causes of RTIs in Vietnam are exactly illegal lane changing and speed driving, at 26.47% and 8.82%, respectively[6]. In response to a government that fails to enforce policy, citizens believe that they can evade the law, promulgating behavior that increases RTI risk. Such behaviors correspond exactly to the epidemiological causes of RTIs, explaining the ways in which lack of faith in transportation infrastructure leads to misbehaviors that increase RTI risk in full circle. The lack of public trust reciprocally exacerbates the problem at hand by promoting behaviors with high-risk, adding to the analysis of public trust and social cohesion.

b. Socioeconomic Symbolism of the Motorcycle

In Vietnam, motorcycles harbor a symbolic significance and popularity for the lower economic class, which unfortunately manifests high RTI risk for the poor, as motorcycles are key factors and inducers of RTI. In her study of Ho Chi Minh City, Professor Allison Truitt notes how motorbikes represent the ideals of trade liberalization and "postreform Vietnam"[15], as such vehicles were specifically introduced after Vietnam opened its economy in the late 20th century; since then, the motorbike has been a symbol of an affordable vehicle for the lower and middle class[15] and a symbol of the middle class' engagement with the Vietnam's emerging industrialization and globalization. This symbolism then explains why motorbikes are incredibly popular for the poor in Vietnam, to the extent that motorbikes represent 94% of all vehicles[6]; at the same time, as previously mentioned, motorcycles represent 78% of all crashes[8] and are not accommodated for in traffic infrastructure. The social context of the motorcycle rooted in wealth inequality, then, becomes a factor that drives the purchase of motorcycles exclusively by the lower and middle class, leading to the unequal distribution of risk. Motorcycles are popular because they are affordable, but the lower middle-class has essentially redefined the vehicle as a token of capitalistic optimism. This uniquely Vietnamese discourse surrounding the motorcycle makes the country especially interesting for a case study, shedding new insights into the relationship between capitalism, development and the built environment. Ultimately, the effect of class divisions on purchasing behavior leads to the manifestation of unequal distributions of risk amongst classes, supporting the narrative of lack of social cohesion and the environment.

IV. Limitations

Two major limitations exist in this analysis. First, the causal link between inequality and few of the mentioned risks is uncertain due to possible confounding or unmentioned variables. For instance, Part

II (a) discusses the prevalence of RTIs in the context of poor motorcycle infrastructure; however, unless a specific cohort or case study is conducted, one cannot know whether poor motorcycle infrastructure is indeed responsible for the prevalence of motorcycle RTIs, as opposed to other factors such as the prevalence of motorcycles, or poor traffic laws. Such unmentioned factors most likely all influence RTI frequency in some way, but overall, parts of this research demonstrate mere correlation. The second limitation is in data temporality. Because government policy is constantly amended and added, data from 2012, even, may not necessarily reflect the state of the problem in the status quo. Even if the latest data is used, there is an omnipresent lag time between the declaration of policy and the enforcement of it, making policy evaluations incredibly difficult. Consequently, the accuracy of data in representing the current state of the problem is questionable, and readers must acknowledge this limitation before any further judgments are made.

PART TWO: POLICY CONSIDERATIONS AND SUGGESTIONS

The remainder of this perspective will examine policy considerations for road safety in Vietnam. Section I will examine road safety policies currently implemented in Vietnam; section II will offer suggestions for future road safety policy, focusing specifically on inequality as the point of intervention. Despite this focus, it is important to note that other aspects beyond the scope of this paper must also be considered for comprehensive policy-making.

I. Current Methods of Intervention

Since the early 2000s, the Vietnam government has implemented various policies that attempt to elevate the country's road safety standards to those of the international community's. This section will evaluate the effectiveness of these policies by examining both their successful and insufficient elements.

a. Areas of Success

State policy has been generally successful in catering to immediate road risk relief; the first example of policy success in this aspect is helmet use reform. Helmet use was nationally mandated in 2007, which resulted in an astonishing increase in helmet coverage from 30% to 97%[16] in a matter of months. To this day, Vietnam's successful helmet use campaign stands as an exemplar of effective state policy. In addition to helmet use, emergency trauma coverage is another aspect of immediate relief policy that Vietnam has set ambitious standards for. The main road safety policy in Vietnam, the National Road Safety Strategy by 2020, outlines the ways in which "50% expressways, national highways [should be] fully equipped with first-aid posts, rescue stations for road traffic"[17], which stands as a rather ambitious standard that reflects the state's general focus on improving RTI trauma care. Consequently, with the new focus on trauma care, there is reason to be hopeful of the improvement of RTI-related fatalities in the coming years.

Several state policies also successfully cater to effective, long-term solutions. The main examples on this front are public awareness programs and changes in government bureaucracy. Through implementing public awareness and education programs on traffic etiquette, the government created a long term, behavioral change for civil society in general; for instance, the National Road Safety Strategy by 2020 declared the regular implementation of "Traffic Safety Year", "Traffic Safety Month" and "Traffic Safety Week"[17], in addition to a specific emphasis on road safety education in primary schools. Another long-term policy measure attempts to change the government bureaucracy surrounding this issue. The National Strategy specifically declared the "strengthening [of] the leadership of the executive committees of the party hierarchy"[17], specifically for leaders addressing the cause of road safety. This policy establishes the long-term paradigm shift of placing more weight on government leaders that consider the issue of road safety, potentially addressing the aforementioned problem of political misrepresentation.

b. Areas of Improvement

Despite the examples of long-term change above, Vietnam's road safety policies still do not seriously engage with questions of major structural reform. Measures for reform are relatively conservative, which is best exemplified by the lack of engagement in road quality reform. The main infrastructural concern for road safety in Vietnam, as mentioned in Part I, is the lack of proper, safe roads; 65% of

roads in Vietnam are considered low quality – specifically, Grade III or Grade IV – roads[6]. Despite this concerning statistic, however, the government has not yet proposed a clear plan on road quality improvement, demonstrating the lack of engagement and ambition in the front of infrastructural reform. Another prominent structural concern in Vietnam's road safety policy lies in reconciling contradictions between Vietnam's domestic road policies and international standards. Road signs, for instance, need major reform in Vietnam as many domestically used figures and symbols do not comply with international standards and conducts; what is more, the readjusting of such figures and symbols will prove to be an incredible financial and practical challenge[6]. Such a project may potentially alleviate the previously characterized risks by emphasizing and officiating the standardization of traffic law in Vietnam, as well as making signs more reader-friendly. Going forward, the reconciliation with international standards will be another area of improvement for Vietnam's road safety policy.

II. Policy Suggestions

The following portion will suggest various policies for road safety with a specific focus on wealth and social inequality. Policy suggestions are organized into three sub-narratives: rural infrastructure, corporate control and paradigm shift.

a. Considering the Margins: Improvement of Rural Infrastructure

A crucial element of inequality for road safety in Vietnam is the geographical divide between rural versus urban infrastructure. As suggested in Part I, this geographical divide is also a socioeconomic one, as most rural victims of RTI are also poor and uneducated[8]. Two main suggestions are offered on this front: road infrastructure and healthcare reform.

Though road infrastructure is briefly mentioned in the National Strategy, this perspective suggests that more focus should be placed in improving the quality of roads in *rural* environments. Ngo et al., through their cohort study of RTIs in Vietnam, found that most – a collective 70% – of RTI deaths are from rural or mountainous regions, while urban localities only account for 30%[8]. Despite this prevalence in rural areas, improvements in road infrastructure are only considered for urban cities like Hanoi and Ho Chi Minh City in the National Strategy. For instance, the policy includes several clauses for describing how to "construct modern traffic control center in grade-1 cities"[17], which solely focuses on major cities instead of on areas where the problem is truly rampant. In order to alleviate this discrepancy in reality versus policy, government should invest more policy and resources in the improvement of road infrastructure in rural areas.

Another aspect of rural versus urban inequality lies in the discrepancy in healthcare provision. While, as stated above, trauma response coverage is an area of success in Vietnam road safety policy, such policies still do not focus on the element of geographical inequality and instead generically focus on trauma coverage as a whole. However, frail trauma infrastructure in rural is a significance cause of RTI risk inequality: Most rural RTI victims die before reaching a healthcare center or any treatment[8]. Consequently, more emphasis must be placed on the healthcare infrastructure in rural and mountainous areas. One way this objective can be achieved is through the coupling of hospital and emergency response databases. Currently, the trauma response system does not integrate on-call information between trauma response units and hospitals[11]. This inefficiency disproportionately places rural victims at greater risk, as they are more remote from hospitals and clinics, making efficient coordination a more urgent need. The Vietnam government must work towards streamlining the national emergency response protocol, in addition to generally providing a greater emphasis on rural trauma care. The State must also intervene more into the healthcare market to provide more coverage for emergency transport, by means such as but not limited to subsidies.

b. Fighting Rampant Capitalism: State to Market Relations

This narrative suggests that the government can inherently reduce RTI risk by addressing the rampant market mechanisms that adversely affect the poor. As the market allows corporations to provide poorer quality goods at cheaper prices, the lower socioeconomic class resort to purchasing traffic safety gear that are often substandard and even hazardous. This perspective will specifically recommend the active inspection of two market-regulated products: helmets and vehicles.

Though helmet coverage is a frequently cited success story in Vietnam, the intrinsic inequality of the helmet market has yet to be addressed. Wealth inequality enters this discussion, as the poor are limited in purchasing power and resort to lower quality helmets. In one statistic, as much as 80% of helmets fail to meet safety standards[8], meaning that, beyond the façade of high percentages, a systemic risk based on economic inequality lurks; as Bao et al. further notes in their cohort study, residents from poorer and rural areas were less likely to wear helmets than their counterparts in in richer, urban areas[10]. Thus, an inequality based on affordability is clearly observed and leads to tangible differences in helmet provision, further implying a need for the government to intervene in this regard. Two methods of state intervention are proposed. Firstly, the government can place a protocol for regular inspections on the quality of helmets that are produced by producing companies. Secondly, the government can provide mass subsidies for such companies to ensure that all citizens – even those in rural and impoverished areas – can afford such essential safety gears. To corroborate this policy suggestion, Pham et al.'s study concludes that 99% of consumers in Vietnam would be willing to afford helmets if the government subsidized their costs[18]. By intervening in this regard, the government can resort to a more upstream solution to the issue of helmet provision, as it places the burden not on consumption but rather on the initial, more upstream stages of production.

A similar logic can be applied for the regular inspection of vehicles. The current policy effectively implements regular vehicle inspections for the consumers; in other words, passengers must regularly inspect their vehicles for abiding by safety standards[19]. However, this perspective suggests that a more upstream solution to this problem is to allow for vehicle safety standard inspections at the corporate, production level. By doing so, the government can address the confounding impact of inequality at a more upstream loci as well. Similarly to helmets, intervening at the production level means that inspection does not occur after consumption, where differences in quality due to prices are already manifested.

c. The Vehicle Gap: New Paradigms in Transportation

Traffic safety is a problem rooted in larger dynamics of civil society, meaning that long-term policies must also cater to a critical analysis of greater social trends. Inequality plays a significant contribution in this analysis, as wealth often determines the primary mode of transportation. Motorcycles, for instance, are the dominating choice of transport for the growing poor, which further reinforce RTI risks, as motorcycles are more vulnerable to traffic accidents. This paper refers to this relationship between inequality and transport as the *Vehicle Gap*, modeled after environmental justice concepts such as the Climate Gap.

The government ought to firstly problematize the exponential growth of motorcycle use. Since the late 1990s, motorcycle use continues to rise almost exponentially[19], which is, as established previously, due to the growth of the Vietnamese lower and middle class. This incessant growth is problematic as it instills a chronic RTI risk on the Vietnamese poor who rely on motorcycles. The most direct method of resolving this chronic risk is state intervention in the automobile industry as a means to lower prices for safe, four-wheeled vehicles. The state can also target the aforementioned social psychology of motorcycle obsession; instead of portraying the motorcycle as a symbol of globalization and free trade, public awareness and education programs can truthfully convey the inherent risk associated with motorcycle use. Licensing standards for motorcycle use can also be made more stringent and demanding, in an effort to alleviate improper and hazardous driving.

A grander policy initiative in lessening the Vehicle Gap is greater investment in public transportation. Public transportation can potentially alleviate the Vehicle Gap as it provides affordable, sustainable and – importantly for this perspective – a safer method of motorized transport for the poor. A successful model of such an outcome is India, in which structural sponsorship of public transportation and non-motorized transport worked to promote improved road safety[20]. Specifically, India's novel focus on improving pedestrian safety, using real-time computer-based analyses of roads and considering climate change during reconstructive efforts, all come across as a unique and forward-thinking agenda for RTI risk alleviation. India's example is a relatable one for Vietnam, as the growing middle and lower socioeconomic class is a similar feature in the course of development for both nations. Consequently, the Vehicle Gap can be potentially bridged by greater investments in public transport, but current

policies regarding investments in public transport are existent but not as extensive; the National Strategy writes, "For Ha Noi Capital and Ho Chi Minh city, strengthen to develop public transport of passengers"[17], which is not only vague but also exclusive to large cities. While investing in public transport in cities are of higher priority, a safe road traffic culture in more remote areas can only emerge through early federal investment in public transport. Ultimately, doing so would allow for a more sustainable and equitable method of transportation for all involved citizens.

CONCLUSION

This perspective examined the ways in which wealth inequality contributes to the issue of road traffic injuries in Vietnam; it then considered various policy suggestions, specifically focusing on inequality as the main vocabulary of action. Cushing et al.'s framing was largely borrowed, with an emphasis on economic, political and social inequality. The provided evidence characterized the unaffordability of services like hospital care and helmet provision, the misrepresentation of health interests, and the social psychology of road safety. All such conclusions suggest that the Equality-Sustainability Hypothesis holds true in the case of RTIs in Vietnam and can be made more comprehensive by liberalizing its definition of environment to also include man-made infrastructure. Subsequent policy considerations, therefore, must also consider this Hypothesis, and recognize that inequality is not merely a relative issue but a true threat to the sustainability of any civil society. This analysis has provided further insight into the ways in which the *man-made* environment – in addition to the natural environment – is also made toxic and unsustainable through the socioeconomic effects of inequality. A new, emerging ecology between the Man-made environment and Man is ultimately studied here, with the high hope that future research can make this ecology more accurate and definite.

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